



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

S052180

RB KIT 407M-21
Job Sheet 171587



Part No: RB KIT 407M-21

Job Qty: 6 pcs

Part Name: Gauge Pin



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/5/18

Job Tracking No:

Due Date: 2/16/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Ship Via:

DAS
13
9-89

MAR 12 2018

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	6 Ea	2/16/18	2/16/18	0.00	0.00	Start Up Container		AT 18/03/21
100	Outsource	6 pcs	2/16/18	2/16/18	0.00	0.00	Outsource16		AT 18/03/21
110	Packaging	6 pcs	2/16/18	2/16/18	0.00	0.00	Packaging2		AT 18/03/21
120	QC	6 pcs	2/16/18	2/16/18	0.00	0.00	QC6		38
130	Packaging	6 pcs	2/16/18	2/16/18	0.00	0.00	Packaging3		GA — MAR 23 2018
140	QC	6 pcs	2/16/18	2/16/18	0.00	0.00	QC21		GA090

Part Op 100 - 1-Issue P/O to KG Grinding; P/O 039 262 (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3-Descriptions: Certificate of Conformity is required

DAS
21
9-89

MAR 27 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
GM9-144	Gauge Pin 0.16Ø	6 (1 ea)	100-Outsource	S044660

GM9-144

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Outsource	GM9-144	6	0	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

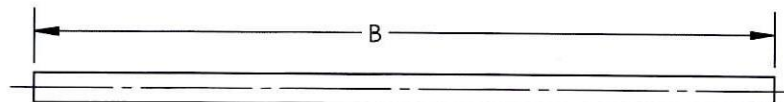
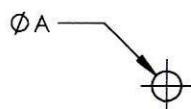
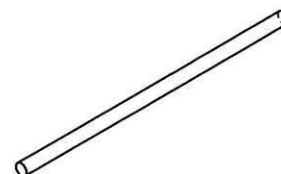
Work Order: _____ Part No. _____ NCR No. _____ Date : _____ Description _____	DISPOSITION Rework ☐ Scrap ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>				Cross tube ☐	Water Jet ☐	Engineering ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		Supplier ☐																																				
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	Supplier ☐																																																			
Job No: 171587 Mfg Date: 03/16/18 Packaging Operation: Change No: Revision: Serial No/Batch: S052180 PART NO: RB KIT 407M-21 Gauge Pin .1600" dia.			MRB (QSI042) Approval _____ Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																																																	
Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re ☐</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Loss/Surge ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Program ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Weld ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Out of Sequence ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Off-set ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Mislabeled ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Fit/Function ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> <td style="border: none;"></td> <td style="border: none;">Misaligned/off center ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> <td style="border: none;"></td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> <td style="border: none;"></td> <td style="border: none;">Outside Dimensions ☐</td> </tr> </table>			Environment ☐	No Re ☐			Design ☐	Operator ☐	BOM/Route ☐	Loss/Surge ☐	Doc/Data ☐	Offset/Setup ☐	Broken/Damage/Defect ☐	Program ☐	Equip/Tooling ☐	Supplier ☐	Inspection Incomplete/Unqualified ☐	Weld ☐	Handling/Pre ☐	Training ☐	Contamination ☐	Wrong Stock Pulled ☐	Material ☐	Use for Testing ☐	Countersink ☐	Out of Sequence ☐	Internal Transport ☐	Poor Information ☐	Cut Too Short ☐	Off-set ☐	Tribal Knowledge ☐	Rushing ☐	Instructions Incomplete/Unclear ☐	Mislabeled ☐	LOA ☐	Product Improvement ☐	Drill Holes ☐	Fit/Function ☐	Substation ☐	Process Improvement ☐		Misaligned/off center ☐	Past Expiry Date ☐	Manufacturing Process ☐		Positioned Wrong ☐	Misidentified ☐	Past Due ☐		Outside Dimensions ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
Environment ☐	No Re ☐																																																			
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OTHER : _____																																																				

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	17-0085	-01 THRU -31 ADDED GUAGE PIN DIMENSIONS TABLE.	4/6/2017	RJC	JAG

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171587 MLC

1802-05



GUAGE PIN DIMENSIONS

PART NUMBER	ØA	B
-01	(Ø.0240)	1"
-03	(Ø.0400)	1"
-05	(Ø.0540)	1"
-07	(Ø.0600)	1"
-09	(Ø.0800)	1"
-11	(Ø.0960)	1"
-13	(Ø.1080)	1"
-15	(Ø.1200)	1"
-17	(Ø.1440)	1"
-19	(Ø.1440)	1/4"
-21	(Ø.1600)	1"
-23	(Ø.1600)	1/4"
-25	(Ø.1728)	1"
-27	(Ø.1728)	1/4"
-29	(Ø.1800)	1"
-31	(Ø.1920)	1"

-01 THRU -31
GUAGE PIN

DART AEROSPACE	
TITLE SPLINE MEASURING KIT ASSY	
DWG NO. RB KIT 407M-01 THRU -31	REV 2
MAT'L STEEL	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
HEAT TREAT Q&T	.XXX ± .005 FRACTIONS ± 1/8
FINISH AS PLATED	.XX ± .01 ANGLES ± 5°
SPEC ASME Y14.5M-2009	.X ± .1 SURFACES = 125/✓
DRAWN BY: CLOUGH	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: MACKOVJAK	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: GILBERT	BELL 407
SCALE 4:1	DATE 12/7/2016
SHEET 2 OF 5	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039202**

Supplier: AFF001-VC
Affutage K.G. Inc.
11455 Philippe Panneton Ave.
Montreal
QC
H1E 4M1 Canada
Phone: 514 323 0192 514 323 6631
Fax: 514 323 6631

PO No: PO039202

PO Date: 3/5/18

Due Date: 3/14/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

REVISED

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170734	RBST4241-5	Roller ISSUE P/O: _____ TO KG GRINDING. MANUFACTURE AS PER DWG. SHIP QTY REQUIRED OF 89031009	Firmed	3/14/18	6 pcs	0 pcs 6x	6 pcs AT	\$12.00/pcs	\$72.00
2	173095	RBST2854-5	Roller ISSUE P/O: _____ TO KG GRINDING. MANUFACTURE AS PER DWG. SHIP QTY REQUIRED OF 89031009 1 pin make 4 pcs	Firmed	3/14/18	26 pcs	0 pcs 26x	26 pcs	\$12.00/pcs	\$312.00
3	170733	RBST1016-5	Roller ISSUE P/O: _____ TO KG GRINDING. MANUFACTURE AS PER DWG. SHIP QTY REQUIRED OF 89031009	Firmed	3/14/18	6 pcs	0 pcs 6x	6 pcs	\$12.00/pcs	\$72.00
4	171045	RBST1007-5	Roller ISSUE P/O: _____ TO KG GRINDING. MANUFACTURE AS PER DWG. SHIP QTY REQUIRED OF 89031009 1 pin make 3 pcs	Firmed	3/14/18	6 pcs	0 pcs 6x	6 pcs	\$12.00/pcs	\$72.00
5	RB KIT 407M-09	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	3 pcs	0 pcs 3x	3 pcs	\$12.00/pcs	\$36.00	

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
6	171579	RB KIT 407M-07	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	3 pcs	0 pcs	3 pcs	\$12.00/pcs	\$36.00
7	171585	RB KIT 407M-15	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	3 pcs	0 pcs	3 pcs	\$12.00/pcs	\$36.00
8	171588	RB KIT 407M-23	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 6 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	6 pcs	0 pcs	6 pcs	\$12.00/pcs	\$72.00
9	171587	RB KIT 407M-21	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	4 pcs	0 pcs	4 pcs	\$12.00/pcs	\$48.00
10	171577	RB KIT 407M-05	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	3 pcs	0 pcs	3 pcs	\$12.00/pcs	\$36.00
11	171581	RB KIT 407M-11	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	3 pcs	0 pcs	3 pcs	\$12.00/pcs	\$36.00
12	172345	RB KIT 407M-17	Gauge Pin 1-Issue P/O to KG Grinding; P/O _____ (Ship quantity req'd: 1 vial makes 4 pins) 2-Grind as per DWG. 3- Certificate of Conformity is required	Firmed	3/14/18	2 pcs	0 pcs	2 pcs	\$12.00/pcs	\$24.00

DAS
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9-88

AFFUTAGE K.G. INC. K.G. GRINDING INC.

40 ans
Depuis 1975

11455 Ave. Philippe Panneton
Montréal, Québec
Canada, H1E 4M1
Tél. : 514-323-0192
Fax : 514-323-6631

Distributeur d'outils de coupe & Affutage sur mesure

Distributor of cutting tools & Custom tooling

BON DE LIVRAISON DELIVERY SLIP

DATE: MAR-14-2018

DART AEROSPACE

73005

P.O. # 39202

QTÉ	LIVRÉE	B/O	DESCRIPTION	PRIX UNITAIRE	TOTAL
6	(6)	-	RBST4241-5		
26	(26)	-	RBST2854-5		
6	(6)	-	RBST1016-5		
6	(6)	-	RBST1007-5		
3	(36)	-	BB KIT 407M-09		
3	(36)	-	" " - 07		
3	(36)	-	" " - 15		
6	(7)	-	" " - 23		
4	(4)	-	" " - 21		
3	(36)	-	" " - 05		
3	(36)	-	" " - 11		
2	(2)	-	" " - 17		
				SOUS-TOTAL	
				TPS	
				TVQ	
				TOTAL:	

REÇU EN BONNE CONDITION / RECEIVED IN GOOD ORDER

www.kggrinding.com • sales@kggrinding.com